

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date:**

**Region:** Fayetteville Regional Office  
**County:** Cumberland  
**NC Facility ID:** 2600161  
**Inspector's Name:** Mitch Revels  
**Date of Last Inspection:** 01/06/2016  
**Compliance Code:** 3 / Compliance - inspection

<p align="center"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Cumberland Co - Ann Street Landfill</p> <p><b>Facility Address:</b>  Cumberland Co - Ann Street Landfill  698 Ann Street  Fayetteville, NC 28301</p> <p><b>SIC:</b> 4953 / Refuse Systems  <b>NAICS:</b> 562212 / Solid Waste Landfill</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>	<p align="center"><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> 15A NCAC 2Q.0513, 2D.0516, 2D.0521, 2D.1100, 2Q.0512  <b>NSPS:</b> Subpart WWW  <b>NESHAP:</b> Subpart AAAA  <b>PSD:</b> N/A  <b>PSD Avoidance:</b> N/A  <b>NC Toxics:</b> N/A  <b>112(r):</b> N/A  <b>Other:</b> N/</p>
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<b>Contact Data</b>			<p align="center"><b>Application Data</b></p> <p><b>Application Number:</b> 2600161.15A &amp; 2600161.15B  <b>Date Received:</b> 06/08/2015 &amp; 10/30/2015  <b>Application Type:</b> Renewal &amp; Modification  <b>Application Schedule:</b> Renewal &amp; TV-Minor</p> <p align="center"><b>Existing Permit Data</b></p> <p><b>Existing Permit Number:</b> 08846/T07  <b>Existing Permit Issue Date:</b> 06/12/2012  <b>Existing Permit Expiration Date:</b> 09/30/2015  <b>Note:</b> App. No. 2600161.15B will be consolidated into App. No. 2600161.15A.</p>
<p align="center"><b>Facility Contact</b></p> <p>Bruce Cummings  Facility Manager  (910) 309-6748  698 Ann Street  Fayetteville, NC 28301</p>	<p align="center"><b>Authorized Contact</b></p> <p>Amy Cannon  County Manager  (910) 678-7723  117 Dick Street, Room 512  Fayetteville, NC 28301</p>	<p align="center"><b>Technical Contact</b></p> <p>Jeffery Brown  County Engineer  (910) 678-7633  130 Gillespie Street, Room 214  Fayetteville, NC 28301</p>	

Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	0.6500	2.31	12.52	23.23	0.5500	1.96	0.6707 [Toluene]
2013	0.3000	1.09	9.51	10.38	0.2400	2.18	0.7382 [Toluene]
2012	0.1600	0.4500	9.57	7.08	0.1600	2.12	0.7288 [Toluene]
2011	0.2200	0.6300	9.03	11.72	0.2700	2.34	0.7926 [Toluene]
010	0.2600	0.7800	8.24	14.62	0.3300	2.34	0.7870 [Toluene]

<p><b>Review Engineer:</b> Yukiko (Yuki ) Puram</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p>	<p align="center"><b>Comments / Recommendations:</b></p> <p><b>Issue:</b> 08846/T08  <b>Permit Issue Date:</b> _____  <b>Permit Expiration Date:</b> _____</p>
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## **I. Introduction:**

Cumberland County Ann Street Landfill (Ann Street Landfill) owns and operates a municipal solid waste (MSW) landfill located in Cumberland County. A renewal permit application No. 2600161.15A was received on June 8, 2015 and was considered administratively complete. The facility also submitted a permit application No. 2600161.15B to include a grinder. However, the grinder was determined to be an insignificant source and it does not require a permit to be operated. Therefore, application No. 2600161.15B will be consolidated into the application No. 2600161.15A.

## **II. Description:**

Ann Street Landfill collects municipal solid waste from Cumberland County. The anaerobic decomposition of the buried municipal solid waste produces landfill gas (LFG). In the primary operating scenario, the gas collection and control system collects the landfill gas via a network of extraction wells, perforated and solid piping within the limits of the landfill. The gas is then treated via compression, dewatering, and filtration and routed to three landfill gas-fired boilers located at a local off-site facility named Cargill, Incorporated to be used as fuel. The boilers are listed in the separate Air Quality Permit (No. 03903) that is held by Cargill. The flare (ID No. CD-1), gas collection and control system (ID No. GCCS1) and the treatment system (ID No. CD-Gas Treatment) are physically located on the property of the landfill. The flare is used to burn off excess gas when the boilers are operating or to burn the landfill gas when the boilers are offline.

## **III. History/Background/Application Chronology**

### Application Chronology

January 3, 2015	Application for permit renewal, 200161.15A, was received.
January 12, 2015	DAQ sent an acknowledgment letter indicating that the application for permit renewal was complete.
January 12, 2015	The Fayetteville Regional Office (FRO) submitted comments on the permit renewal application.
October 30, 2015	Application for permit modification, 2600161.15B, was received.
October 30, 2015	An acknowledgement letter was sent indicating the application was complete.
November 10, 2015	FRO submitted comments on the application for a permit modification (15B).
November 24, 2015	According to Mr. Aaron Weispfenning from CDM, the shredder that was included in the permit modification (15B) might be an exempt source since the engine is on a mobile unit. DAQ informed Mr. Weispfenning that the engine portion of the unit may be exempt, but the shredder portion of the unit must be evaluated for the PM emissions.
February 3, 2016	Mr. Weispfenning submitted PM calculations for the shredder that was included in the permit modification (15B.) According to the calculation, the maximum PM emissions from the shredder was estimated to be less than 5 tpy. Therefore, the unit is an exempt source. The shredder will be added to the exempt source table upon the permit renewal and the application 15B will be

consolidated into application 26000161.15A. The facility also requested that the DAQ remove the toxic air pollutant conditions from the permit.

June 7, 2016 Mr. Weispfenning was asked to submit more detailed information on the toxic emissions modeling conducted in 2012. Certifications of conformity for the engines ES-4 and ES-5 are also requested.

June 27, 2016 I visited the facility and met with Mr. Weispfenning. A copy of certifications of conformity for the engines are obtained.

September 29, 2016 Mr. Weispfenning submitted a spreadsheet comparing the emissions used for the toxic modeling in 2012 and the facility's current emissions.

October 24, 2016 Mr. Booker Pullen of DAQ reviewed the draft permit and permit review.

October 28, 2016 A draft permit and the permit review were sent to Ms. Amy Cannon, County Manager of Cumberland County and Responsible Official, Mr. Bruce Cummings, Facility Manager, Mr. Weinspfenning, Mr. Mitch Revels and Mr. Gregory Reeves of Fayetteville Regional Office.

November 22, 2016 I spoke with Mr. Weispfenning over the phone and he had no comments on the draft permit or permit review.  
Mr. Reeves responded with his comments.  
The draft permit and the review was sent to the DAQ website to be published for public review and to the EPA.

#### IV. Statement of Compliance:

The latest inspection of this facility was conducted on January 6, 2016 by Mr. Mitch Revels of the Fayetteville Regional Office. The facility appeared to be in compliance with all applicable regulations. Based on the DAQ's database, Ann Street Landfill did not have any violations in the past five years. Additionally, the application included Form E5 indicating that the facility was in compliance with all applicable requirements.

#### V. Table of changes to existing permit No. 08846T07

Page	Section	Description of Change(s)
Cover letter and Permit throughout	NA	Updated the department name, logo, issue dates, permit and application numbers, modification description, contact information and cc's. Inserted an increment statement.
Attachment 1	NA	Added a new insignificant source, One shredder with a 430HP diesel-fired engine (IES-6).
2	Table of Contents	Added Section 2.2.
3	Emission Source Table	Added NSPS WWW and MACT AAAA in the description.
3-16	2.1.A	Removed the crusher (ES-4) and the screen (ES-5).
3-4	2.1.A Table	<ul style="list-style-type: none"> <li>Removed PM/PM10, Subpart IIII, fugitive non-process dust emissions, Hazardous air pollutants for engines ES-4 and ES-5.</li> <li>Expanded the limits/standards for NMOC.</li> <li>Moved Toxic air pollutants to Section 2.2.A.</li> </ul>

Page	Section	Description of Change(s)
4	2.1.A.1	15A NCAC 02D .0510 was moved to Section 2.1.B
4-10	2.1.A.2	Change the structure of this rule to be consistent with DAQ's typical permit conditions.
10	2.1.A.3	<ul style="list-style-type: none"> <li>• NSPS Subpart IIII was moved to Section 2.2.B.</li> <li>• Added permit conditions for NSPS Subpart IIII</li> </ul>
10	2.1.A.4	15A NCAC 02D .0516 was moved to Section 2.1.A.1
10	2.1.A.5	15A NCAC 02D .0521 <ul style="list-style-type: none"> <li>• Moved flare (CD-1) to Section 2.1.A.2.</li> <li>• Moved the crusher (ES-4) and the screen (ES-5) to Section 2.1.B.3.</li> </ul>
11	2.1.A.6	Removed since this condition was duplicate of General Condition MM.
12-13	2.1.A.8	Expanded the SSM conditions.
13-14	2.1.A.9	Removed the Subpart IIII conditions.
15-16	2.1.A.10 and 11	Move to Section 2.2.A.
17 (T08)	2.1.B	Created a new section for the crusher (ES-4) and the screen (ES-5)
	2.2	Created a section for "Multiple Emission Source(s) Specific Limitations and Conditions"
19-20 (T08)	2.2.A2&3	Deleted 02Q.0705 from the reference as the rule has been repealed.
17-26	3	Updated to General Condition Version 4.0

Title V equipment editor: On October 10, emission source descriptions of Municipal solid waste landfill, both closed portion and active portion (ES-1 and ES-3) were updated. The updated descriptions added NSPS Subpart WWW and MACT Subpart AAAA. An insignificant source, one shredder with a 430 HP diesel fired engine (IES-6) was added.

## VI. Regulatory Review:

In order to differentiate two groups of emission sources, the permit structure was re-organized in this renewal. The current permit (T07) combined the municipal solid waste landfill (ID Nos. ES-1 and ES-3), the rock crusher (ES-4) and the screen (ES-5) all into the same section (Section 2.1.A). During this renewal, however, the rock crusher and the screen were separated from the landfill due to the difference in the emission type. As a result, Section 2.1.A included the MSW landfill (ID Nos. ES-1 and ES-2) and Section 2.1.B included the rock crusher (ID No. ES-4) and the screen (ID No. ES-5).

**2.1.A.** One Municipal Solid Waste landfill facility (ES-1) with associated landfill gas collection and control system (CD-GCCS-1) equipped with one landfill gas treatment system (CD-Treatment), one permanent enclosed flare (CD-FLARE2) and one permanent utility flare (CD-FLARE3).

1. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES  
This rule limits sulfur dioxide emissions from the flare to 2.3 pounds per million Btu heat input. The flare's maximum gas flow rate is 1,250 scfm. Assuming the heat value of the landfill gas being 0.00056 mmBtu/scf, maximum heat rating of the flare is 367,920 mmBtu/yr. According to the application 15.B, estimated SO<sub>2</sub> emissions from the flare in 2014 was 927.4 lb/yr. Since  $927.4\text{lb}/367,970\text{mmBtu} = 0.00252\text{ lb/mmBtu}$ , which is well below the limit of 2.3 lb/mmBtu, compliance is expected.

2. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

No change in this regulation.

3. 15A NCAC 2D .0524: 40 CFR Part 60, SUBPART WWW, “NEW SOURCE PERFORMANCE STANDARDS FOR MUNICIPAL SOLID WASTE LANDFILLS”

Although there was no change in the requirements, the format of this regulation was changed to be consistent with DAQ’s typical permitting style. Mr. Weispfenning mentioned that the landfill is going to expand in early 2017. Once the landfill is expanded, the facility will no longer be subject to Subpart WWW, but will be subject to a new municipal solid waste landfill rule, Subpart XXX. The rule is effective after three months of the commenced construction date of the expanded portion of landfill.

4. 15A NCAC 2D .1111: 40 CFR Part 63, Subpart AAAA, “NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: MUNICIPAL SOLID WASTE LANDFILLS “

Although there was no change in the applicability of this rule, the SSM provision of this rule was not on the current permit. To ensure the facility being compliant with this requirement, the SSM requirements are added to the permit.

**2.1.B.** One 100-tons per hour rock crusher with one 215-horsepower diesel fired CI ICE (ES-4) and one screen with one 100.4 horsepower diesel fired CI ICE (ES-5)

These sources are equipped with wheels that can be moved to different locations. However, the facility has a designated area where they operate the crushing and the screening operations to break down the bulky items. They move these engines occasionally mostly for a maintenance purpose. Since the operations are stationary, these sources cannot be classified as non-road engines. Therefore, they are subject to the following rules:

1. 15A NCAC 02D .0510 “PARTICULATES FROM SAND, GRAVEL, OR CRUSHED STONE OPERATIONS”

No change in this regulation

2. 15A NCAC 2D .0516 "SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES”

No change in this regulation

3. 15A NCAC 2D .0521 "Control of Visible Emissions"

No change in this regulation

4. 15A NCAC 15A NCAC 2D .0524, 40 CFR Part 60, Subpart IIII “New Source Performance Standards”

Although this rule has not changed since the last renewal, the rule described in current permit T07 are MACT Subpart ZZZZ rule, not NSPS Subpart IIII. The error was corrected. The facility demonstrated compliance with this rule by showing Certificates of Conformity for ES-4 and ES-5.

5. 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources”

No change in this regulation.

6. 15A NCAC 2D .1111, 40 CFR Part 63, Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants, Reciprocating Internal Combustion Engines

As described in Section 4 of this review, the current permit describes the NSPS Subpart IIII rule instead of the GACT ZZZZ in this section. The sources that are subject to NSPS Subpart IIII

must meet the requirements of GACT ZZZZ by meeting the requirements of NSPS Subpart IIII. The error was corrected at this renewal.

7. NSPS OOO: Standards of Performance for Nonmetallic Mineral Processing Plants: This facility is not subject to this rule. According to §60.670(c)(2), “Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less.” Since the crusher (ES-4) is 100 tons per hour, the source is not subject to this rule.

## **2.2.A Multiple Emission Source(s) Specific Limitations and Conditions**

1. 15A NCAC 2D .1806 "Control and Prohibition of Odorous Emissions"  
No change in this regulation.
2. 15A NCAC 2Q .0705 “Existing Facilities and SIC Calls,” 15A NCAC 2D .1100 “Control of Toxic Air Pollutants”  
Mr. Weispfenning asked about toxics exemption for sources subject to MACT per 15A NCAC 02Q .0702(a)(27)(B). Even though facility conducted a toxics modeling back in 2012, it was unclear what basis was used for the emission input. Mr. Weispfenning then submitted actual toxic emissions comparing 2010 and 2015. The comparison indicated that the actual emissions have not changed much in five years. The reason is because they are sending more landfill gas to the offsite generator which is permitted under a separate permit. Even though this indicates compliance with the toxic rules, it did not demonstrate that there was no unsafe risk to health and welfare associated to these pollutants. In order to analyze the health risk associated with the pollutants, the landfill’s potential emissions must be used. Since the facility was unable to produce the landfill’s potential emissions, these rules remain in the permit.
3. 15A NCAC 2Q .0705: Existing Facilities and SIC Calls  
15A NCAC 2Q .0711 “Emission Rates Requiring A Permit”  
No change in this regulation.

## **VII. NSPS, NESHAPS/MACT, NSR/PSD, 112(r), RACT, CAM**

Municipal Solid Waste Landfills (ES-1 and ES-2) are subject to NSPS Subpart WWW and MACT Subpart AAAA. The rock crusher (ES-4) and the screen (ES-5) are subject to NSPS Subpart IIII and MACT Subpart ZZZZ. For more detail, See Part VI. This facility is not subject to NSR/PSD, 112(r), RACT or CAM.

## **VIII. Facility Wide Air Toxics**

The facility is currently subject to 15A NCAC 2D.1100 for acrylonitrile, benzene, vinyl chloride, hydrogen chloride and hydrogen fluoride. The limits are based on the modeling analysis conducted in February, 2012. However, it is unclear how the input that was used for the modeling was calculated. It could be based the waste that was in place, or it could be based on the waste projected in certain years. Because of the nature of the industry, their emission source (waste) continuously expand. Although Mr. Weispfenning submitted actual emissions in 2010 and 2015. In order to demonstrate no unacceptable risk to human health associate with the toxic pollutant emissions, more information needed. Therefore, the toxic conditions stay in the permit at this time.

## **IX. Facility Emissions Review**

There is no change in Title V potential emissions for this renewal. Actual emissions for the last five years as reported in the emission inventories are presented in the table in the first page of this review.

#### **X. Public Notice/EPA and Affected State(s) Review**

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 2Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA.

#### **XI. Other Regulatory Considerations**

- A P.E. seal is NOT required for this application.
- A zoning consistency determination is NOT required for this application.
- Cumberland County has been triggered for PSD increment consumption for PM10 and SO2. According to Application 2600161.15B, PM10 and SO2 emissions were increased by 0.95 lb/hr and 0.01 lb/hr respectively.
- An application fee was provided for the minor modification (26000161.15B). No application fee was required for the renewal application No. 2600161.15A.

#### **XII. Recommendations**

The permit renewal application for Cumberland Co-Ann Street Landfill located in Fayetteville, Cumberland County, NC has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. The DAQ recommends the issuance of Air Permit No. 08846T08.